: What are critical success factors for using advanced analytics?

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Presence of critical success factors (CSF) influence the performance of a task, project or organization. Managers can influence CSF to increase chances of success. In the realm of data analysis, increasing data volume, variety and velocity (speed) of data capture and storage are challenging, yet create many opportunities. Managers need to explore how they can increase the chances that analysis of data will provide results that benefit their organizations. According to a TDWI report, "Advanced analytics (data mining, predictive analytics, machine learning, and more) are central to enabling organizations to translate data smarts into competitive advantages."

Analyzing data can be challenging and more data can increase the complexity of an analysis. More data does not mean better analytics. Hiring data scientists, buying more hardware or software or hiring consultants does not guarantee success. Data analysts do need to implement contemporary data management capabilities like in-data processing, in-memory processing, grid computing and stream processing. New software like Hadoop or Cassandra may be needed as well. Some training is needed and possibly new staff might also be needed.

McKinsey director David Court (2012) argues three success factors must also be present: 1) creative use of internal and external data, 2) developing workable models that use data, and 3) "transforming the company to take advantage of that data in models". Court notes "you've got to make a decision support tool the frontline user understands and has confidence in."

What should IT managers do to support advanced analytics and the work of data analysts and data scientists? According to Stodder (2011):

1) deploy in-memory processing to increase the speed of analytical processing.

2) transform data where the data is stored.

3) minimize moving data to the analyst and keep a single "version" of the data.

4) use and manage in-memory database processing to provide faster results.

5) use cloud and grid computing to increase scalability and increase accessibility of data.

6) use parallel processing hardware for faster analysis and especially for real-time analytics and complex event processing.

The critical success factors are: 1) managers who want to and will use analytics and decision support, 2) knowledgeable and innovative data and decision support analysts, 3) good data, 4) good models for forecasting and prediction, 5) appropriate technology, and 6) effective management of the process. Using advanced analytics and decision support must be effectively managed. **All six factors are critically important.**

References

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Last update: 2013-12-21 01:15